



## *Antarctic Meteorite NEWSLETTER*

A periodical issued by the Antarctic Meteorite Working Group to inform scientists of the basic characteristics of specimens recovered in the Antarctic

Volume 6, Number 2

August, 1983

Supported by the National Science Foundation, Division of Polar Programs, and compiled at Code SN2, Johnson Space Center, NASA, Houston, Texas 7705

### SAMPLE REQUESTS AND ALLOCATIONS

The Meteorite Working Group will meet in September for the purpose of reviewing requests for Antarctic Meteorites. Requests must be in by September 19, 1983.

Requests for specific samples (including sample name/number, weight requested, a brief description of the intended meteorite investigation, and pertinent sample specifics) should be sent to:

Secretary, MWG  
Planetary Materials Branch, SN2  
NASA, Johnson Space Center  
Houston, TX 77058

Mailings of the Antarctic Meteorite Newsletter has grown to over 600 per issue. We wish to verify that everyone receiving the Antarctic Meteorite Newsletter wishes to continue to receive it. It is mandatory that you return this form if you want to continue receiving the Newsletter.

Also, please use the form as an address change if necessary.

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ADDRESS \_\_\_\_\_

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Please mail to: Secretary, MWG  
Planetary Materials Branch, SN2  
NASA, Johnson Space Center  
Houston, Texas 77058 USA

Classified meteorites from the 1981 and 1982 Antarctic Collection

Number	Weight (g)	Classification	Degree of weather. fract.		% Fa	% Fs	Page
ALHA81001	52.9	Eucrite (anomalous)	A	B		59	
ALHA81002	14.0	Carbonaceous C2	A	B	0-52	0-2	
ALHA81003	10.1	Carbonaceous C3V	A/B	A/B	0-60	1	
ALHA81004	4.7	Carbonaceous C2	A/B	A	0-52	0-2	
ALHA81005	31.4	Anorthositic Breccia	A/B	A	11-40	7-47	
ALHA81006	254.9	Eucrite (polymict)	A	A/B		35-60	
ALHA81007	163.5	Eucrite (polymict)	A/B	A		38-55	
ALHA81008	43.8	Eucrite (polymict)	A/B	A/B		32-59	
ALHA81009	229.0	Eucrite	A	A		30-63	
ALHA81010	219.1	Eucrite (polymict)	A	A		31-57	
ALHA81011	405.7	Eucritic Breccia	A/B	A		33-60	
ALHA81012	36.6	Eucrite	A/B	A		33-62	
ALHA81013	17727.0	Iron					
ALHA81014	188.2	Iron					
ALHA81015	5489.0	H-5 Chondrite	B	B	19	16	
ALHA81016	3850.2	L-6 Chondrite	B	A	25	21	
ALHA81017	1434.4	L-5 Chondrite	B	A	25	21	
ALHA81018	2236.9	L-5 Chondrite	B	B	24	21	
ALHA81019	1051.2	H-5 Chondrite	B/C	B	19	16	
ALHA81020	1352.5	H-5 Chondrite	B	A	19	16	
ALHA81021	695.1	E-6 Chondrite	A	B		0-1	
ALHA81022	912.5	H-4 Chondrite	B/C	A	19	17	
ALHA81023	418.3	L-5 Chondrite	B	A/B	25	21	
ALHA81024	797.7	L-3 Chondrite	C	B	3-28	2-24	
ALHA81025	379.0	LL-3 Chondrite	C	B	1-41	3-40	
ALHA81026	515.5	L-6 Chondrite	B	A	25	21	
ALHA81027	3835.3	L-6 Chondrite	C	A/B	25	21	
ALHA81028	80.1	L-6 Chondrite	B	B	25	21	
ALHA81029	153.0	L-6 Chondrite	C	A	25	21	1
ALHA81030	1851.6	LL-3 Chondrite	B/C	B/C	1-49	5-33	
ALHA81031	1594.9	LL-3 Chondrite	C	B/C	1-43	3-35	
ALHA81032	726.8	LL-3 Chondrite	C	A	0-42	2-14	
ALHA81033	252.4	H-5 Chondrite	C	C	18	16	
ALHA81034	254.9	H-5 Chondrite	B	B	19	17	
ALHA81035	256.1	H-6 Chondrite	C	A/B	19	17	
ALHA81036	252.1	H-5 Chondrite	C	A	19	17	
ALHA81037	320.3	H-6 Chondrite	B	A	20	17	
ALHA81038	229.0	H-6 Chondrite	C	B	19	17	
ALHA81039	205.9	H-5 Chondrite	A/B	B	19	17	
ALHA81040	194.5	L-4 Chondrite	B/C	A	25	21	
ALHA81041	728.8	H-4 Chondrite	C	C	18	15-23	1
ALHA81042	534.4	H-5 Chondrite	C	C	19	17	
ALHA81043	106.0	H-4 Chondrite	B/C	C	18	15	
ALHA81044	386.8	H-4 Chondrite	C	C	18	16	1
ALHA81045	90.2	H-4 Chondrite	C	B/C	18	16	1
ALHA81046	16.6	H-4 Chondrite	C	B/C	18	16	1

## 1981 and 1982 classifications (cont.)

Number	Weight (g)	Classification	Degree of weather. fract.		% Fa	% Fs	Page
ALHA81047	81.9	H-4 Chondrite	B/C	B/C	18	16	1
ALHA81048	190.6	H-4 Chondrite	B/C	B/C	18	16	1
ALHA81049	8.5	H-4 Chondrite	B/C	B	18	16	1
ALHA81050	25.7	H-4 Chondrite	C	C	18	16	1
ALHA81051	43.0	H-4 Chondrite	B/C	B	18	16	1
ALHA81052	28.7	H-4 Chondrite	C	B	18	16	1
ALHA81053	2.5	L-3 Chondrite	C	B	1-29	1-42	
ALHA81054	2.2	H-6 Chondrite	B	B	19	17	
ALHA81055	4.5	H-6 Chondrite	B	A	19	16	
ALHA81056	1.4	H-4 Chondrite	B	A	19	17	
ALHA81057	8.4	H-4 Chondrite	B	A	19	13-21	
ALHA81058	66.2	H-4 Chondrite	C	C	18	15	
ALHA81059	539.5	Mesosiderite	C	B/C	28	25-32	
ALHA81060	28.3	L-3 Chondrite	C	B	2-28	5-27	
ALHA81061	23.7	L-3 Chondrite	B/C	A	3-33	5-27	
ALHA81062	0.5	H-5 Chondrite	C	A	18	16	
ALHA81063	4.9	H-5 Chondrite	B/C	B	18	16	
ALHA81064	191.0	H-5 Chondrite	C	A/B	18	15	2
ALHA81065	13.1	L-3 Chondrite	B/C	B	10-41	5-24	
ALHA81066	8.7	L-3 Chondrite	C	B	1-44	1-25	
ALHA81067	227.6	H-5 Chondrite	C	B	19	17	
ALHA81068	23.7	H-4 Chondrite	B	A	19	16	
ALHA81069	7.2	L-3 Chondrite	B/C	A	4-38	1-31	
ALHA81070	3.7	H-5 Chondrite	B/C	A	19	17	
ALHA81071	2.5	H-5 Chondrite	B	A	19	17	
ALHA81072	3.1	H-5 Chondrite	B/C	A	19	17	
ALHA81073	3.3	H-4 Chondrite	B/C	A	19	8-18	
ALHA81074	7.9	H-4 Chondrite	B	B	19	16	
ALHA81075	15.7	H-5 Chondrite	B	A	19	17	
ALHA81076	10.3	H-6 Chondrite	B	A	19	16	
ALHA81077	4.2	H-5 Chondrite	B	A	19	17	
ALHA81078	5.8	H-6 Chondrite	B/C	B	19	16	
ALHA81079	7.5	H-6 Chondrite	C	A	19	16	
ALHA81080	16.6	H-5 Chondrite	A/B	A	19	17	
ALHA81081	5.0	H-5 Chondrite	B	A	19	17	
ALHA81082	5.9	H-5 Chondrite	B	A	19	17	
ALHA81083	6.6	H-5 Chondrite	B	A	19	16	
ALHA81084	15.6	H-5 Chondrite	B	A	19	16	
ALHA81085	16.2	L-3 Chondrite	C	B	1-39	2-25	
ALHA81086	5.7	H-6 Chondrite	B	B	19	16	
ALHA81087	8.4	L-3 Chondrite	B/C	B	2-29	3-31	
ALHA81088	3.8	H-5 Chondrite	B	A	19	17	
ALHA81089	11.1	H-5 Chondrite	B	A	19	17	
ALHA81090	9.5	H-5 Chondrite	B	A	19	16	
ALHA81091	12.1	H-5 Chondrite	B	B	19	16	
ALHA81092	15.6	H-4 Chondrite	B	A	19	17	
ALHA81093	271.0	H-6 Chondrite	A/B	A/B	20	17	
ALHA81094	152.0	H-6 Chondrite	C	B	19	16	2
ALHA81095	58.7	H-4 Chondrite	B/C	C	18	16	
ALHA81096	83.0	H-6 Chondrite	B	B	19	17	
ALHA81097	79.9	H-4 Chondrite	B	A	18	16	
ALHA81098	70.9	Mesosiderite	C	B/C		28	3
ALHA81099	151.6	L-6 Chondrite	A/B	A	25	21	3

## 1981 and 1982 classifications (cont.)

Number	Weight (g)	Classification	Degree of weather. fract.		% Fa	% Fs	Page
ALHA81100	154.6	H-5 Chondrite	B	A	19	17	4
ALHA81101	119.2	Ureilite	A/B	B	10-22		4
ALHA81102	196.0	H-6 Chondrite	B/C	A/B	19	17	
ALHA81103	136.1	H-6 Chondrite	B/C	B/C	19	17	5
ALHA81104	183.8	H-4 Chondrite	C	C	19	17	5
ALHA81105	92.7	H-4 Chondrite	C	B/C	18	16	
ALHA81106	48.3	L-6 Chondrite	B	B	24	20	
ALHA81107	139.6	L-6 Chondrite	B	A	24	21	6
ALHA81108	69.1	H-5 Chondrite	B	B	18	16	
ALHA81109	1.1	H-4 Chondrite	B	A	19	17	
ALHA81110	3.5	H-5 Chondrite	B/C	A	19	17	
ALHA81111	210.3	H-6 Chondrite	B/C	B	19	17	
ALHA81112	150.3	H-6 Chondrite	B/C	A	19	17	6
ALHA81113	111.1	H-5 Chondrite	B/C	C	18	16	7
ALHA81114	79.3	H-4 Chondrite	B/C	B/C	18	16	
ALHA81115	154.9	H-5 Chondrite	C	A/B	19	17	7
ALHA81116	1.7	H-5 Chondrite	B	A	19	17	
ALHA81117	32.9	H-4 Chondrite	B	B/C	18	14-21	
ALHA81118	84.7	H-5 Chondrite	B/C	A	19	16	
ALHA81119	107.4	L-4 Chondrite	B	B	24	21	8
ALHA81120	13.8	H-5 Chondrite	B/C	B	18	16	
ALHA81121	88.4	LL-3 Chondrite	B	B	8-40	1-24	
ALHA81122	20.9	L-6 Chondrite	B	B	25	21	
ALHA81123	2.0	LL-6 Chondrite	B	A	30	25	
ALHA81124	9.3	H-5 Chondrite	B	A	19	17	
ALHA81125	10.2	H-5 Chondrite	B	A	19	17	
ALHA81126	21.5	H-5 Chondrite	B	A	19	16	
ALHA81127	15.4	H-6 Chondrite	B/C	B	19	17	
ALHA81136	1.2	H-5 Chondrite	B	A/B	20	17	
ALHA81153	4.2	L-5 Chondrite	B	A	24	21	
ALHA81154	1.1	H-6 Chondrite	B	B	19	17	
ALHA81158	2.4	H-5 Chondrite	B/C	A	19	17	
ALHA81251	158.0	LL-3 Chondrite	B/C	B	1-29	2-28	
ALHA82100	24.3	Carbonaceous C2	A	A	1-47	1-2	8
ALHA82101	29.1	Carbonaceous C30	A	A/B	1-50	1-10	9
ALHA82102		Ordinary Chon.					9
EETA82600	247.1	Howardite	A	B		22-53	10
PCAA82500	90.9	LL-6 Chondrite	B	C	31		10
PCAA82501	54.4	Eucrite (unbrec.)	A	A		41-57	11
PCAA82502	890.4	Eucrite (unbrec.)	A	A		36-61	12
TILA82403	49.8	Eucrite (brecciated)	A	A		43-58	12

Probable pairings of the 1981 and 1982 Antarctic Meteorites. \*\*

C2: ALHA77306, 78261, 81002, 81004.

L3: ALHA81024 with the ALHA77011 group.

L5: ALHA81017, 81018, 81023.

L6: ALHA81027, 81028, 81029.

LL3: ALHA79003, 81025, 81030, 81031, 81032.

H4: ALHA81041, 81043, 81044, 81045, 81046, 81047, 81048,  
81049, 81050, 81051, 81052 with the ALHA77004 group.

H4: ALHA77009, 78084, 81022.

H6: ALHA81035, 81038.

H6: ALHA71103, 81112.

Eucrite: ALHA81009, 81012.

Polymict Eucrite: ALHA81006, 81007, 81008, 81010 with the  
ALHA76005 group.

Polymict Eucrite/Howardite: ZETA79006, EETA81600.

Mesosiderite: ALHA81059, 81098.

\*\* Add to Vol. 5 No. 1 pairing list for a complete listing.

Pebble Classifications from the 1977\* and 1978#  
Antarctic Meteorite Collection

Number	Weight (g)	Classification	Degree of weather. fract.	% Fa	% Fs
ALHA77007	99.3	H-5 Chondrite	B	19.1	16.7
ALHA77008	93.0	L-6 Chondrite	A	24.6	20.6
ALHA77013	23.0	L-3 Chondrite	B	9-28	1-35
ALHA77016	78.3	H-5 Chondrite	B	18.6	17.1
ALHA77017	77.9	H-5 Chondrite	B	18.8	16.3
ALHA77018	51.8	H-5 Chondrite	B/C	19.0	17.0
ALHA77019	59.8	L-6 Chondrite	B/C	24.9	21.4
ALHA77022	16.0	H-5 Chondrite	A	19.1	17.0
ALHA77023	21.4	H-5 Chondrite	B	19.1	16.8
ALHA77026	20.3	L-6 Chondrite	B/C	24.3	20.7
ALHA77027	3.7	L-6 Chondrite	B/C	25.0	21.5
ALHA77029	1.4	Carbonaceous C30	A/B	23.0	2.6
ALHA77031	0.5	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77034	1.8	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77036	8.5	L-3 Chondrite	B	n.d.	n.d.
ALHA77038	18.8	H-5 Chondrite	A/B	19.0	17.1
ALHA77039	8.2	H-5 Chondrite	A/B	18.5	16.3
ALHA77041	16.6	LL-6 Chondrite	A	30.7	25.1
ALHA77042	20.4	H-5 Chondrite	A/B	19.0	16.6
ALHA77043	11.4	L-3 Chondrite	B/C	1-37	1-28
ALHA77045	17.9	H-5 Chondrite	A	18.7	17.0
ALHA77046	7.6	H-6 Chondrite	A/B	19.0	16.7
ALHA77047	20.4	L-3 Chondrite	C	n.d.	n.d.
ALHA77049	7.3	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77050	84.2	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77051	15.0	H-5 Chondrite	A	18.8	16.5
ALHA77052	112.2	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77054	10.4	H-5 Chondrite	B	18.5	16.9
ALHA77056	12.3	H-4 Chondrite	A/B	18.8	16.3
ALHA77058	3.7	H-5 Chondrite	B	18.8	16.1
ALHA77060	64.4	LL-5 Chondrite	A	28.1	23.2
ALHA77063	2.9	H-5 Chondrite	B	18.0	16.8
ALHA77066	4.9	H-5 Chondrite	A	19.0	17.4
ALHA77069	0.8	L-6 Chondrite	B/C	25.4	21.4
ALHA77070	18.4	H-5 Chondrite	B	18.4	16.8
ALHA77073	10.1	H-5 Chondrite	A/B	18.8	17.7
ALHA77076	1.7	H-5 Chondrite	B	19.5	16.1
ALHA77078	7.8	H-5 Chondrite	B	19.5	16.7
ALHA77079	7.8	H-5 Chondrite	A	18.2	15.8
ALHA77082	12.0	H-5 Chondrite	A/B	19.3	16.5
ALHA77084	44.1	H-5 Chondrite	A/B	18.8	16.8
ALHA77085	45.9	H-5 Chondrite	B	18.8	17.6
ALHA77087	30.7	H-5 Chondrite	B	19.0	16.7
ALHA77089	7.8	L-6 Chondrite	B	25.5	21.4
ALHA77091	4.2	H-5 Chondrite	B/C	18.9	16.1
ALHA77092	45.0	H-5 Chondrite	A	18.5	16.5

Pebble Classifications (cont.)

Number	Weight (g)	Classification	Degree of weather. fract.	% Fa	% Fs
ALHA77094	6.6	H-5 Chondrite	B	18.5	16.2
ALHA77096	2.5	H-5 Chondrite	A	18.7	17.1
ALHA77098	8.0	H-5 Chondrite	B	18.7	16.7
ALHA77100	8.5	H-5 Chondrite	A/B	19.2	16.4
ALHA77101	3.8	H-5 Chondrite	B	18.6	17.0
ALHA77104	6.3	H-5 Chondrite	A	18.9	16.9
ALHA77106	7.8	H-5 Chondrite	A/B	18.8	16.5
ALHA77108	0.7	H-5 Chondrite	A/B	18.5	15.9
ALHA77111	52.3	H-6 Chondrite	A/B	19.0	16.6
ALHA77112	21.7	H-5 Chondrite	A	18.7	16.7
ALHA77113	2.0	H-5 Chondrite	B	18.7	18.4
ALHA77114	44.5	H-5 Chondrite	B	19.6	17.2
ALHA77115	154.4	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77117	20.8	L-5 Chondrite	A/B	24.4	21.0
ALHA77120	3.9	H-5 Chondrite	A/B	18.5	16.0
ALHA77122	4.6	H-5 Chondrite	B	19.1	16.8
ALHA77125	18.7	H-5 Chondrite	A/B	17.2	15.5
ALHA77126	25.2	H-5 Chondrite	A/B	18.3	16.2
ALHA77127	3.8	L-5 Chondrite	B	25.0	21.1
ALHA77129	1.7	H-5 Chondrite	B	18.9	16.6
ALHA77130	24.8	H-5 Chondrite	A	18.9	16.5
ALHA77131	25.9	H-6 Chondrite	A/B	19.2	16.8
ALHA77132	115.4	H-5 Chondrite	A/B	19.0	16.9
ALHA77133	18.7	H-6 Chondrite	A	19.0	17.0
ALHA77134	19.1	H-6 Chondrite	A	18.9	16.7
ALHA77136	3.6	H-5 Chondrite	A/B	19.1	16.4
ALHA77138	2.1	H-5 Chondrite	A	19.2	17.0
ALHA77139	65.9	H-5 Chondrite	A/B	18.6	16.4
ALHA77142	3.1	H-5 Chondrite	A/B	18.9	17.1
ALHA77143	39.0	H-5 Chondrite	A/B	18.7	16.2
ALHA77146	18.2	H-6 Chondrite	A/B	18.9	16.9
ALHA77147	18.7	H-6 Chondrite	A/B	19.0	16.6
ALHA77149	25.6	H-6 Chondrite	A/B	19.1	16.9
ALHA77151	16.9	H-5 Chondrite	A	18.9	16.4
ALHA77152	17.8	H-5 Chondrite	A	18.7	16.9
ALHA77153	12.0	H-5 Chondrite	A	19.2	16.7
ALHA77156	17.7	EH-4 Chondrite	B	0.8	1.5
ALHA77157	88.3	H-6 Chondrite	A/B	18.6	15.7
ALHA77158	19.9	H-5 Chondrite	B	18.9	16.9
ALHA77159	17.0	L-6 Chondrite	A/B	24.4	20.8
ALHA77161	6.1	H-5 Chondrite	B	19.3	17.1
ALHA77162	29.0	L-6 Chondrite	A	25.3	20.9
ALHA77163	24.3	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77166	138.8	L-3 Chondrite	C	n.d.	n.d.
ALHA77168	24.7	H-5 Chondrite	B	19.0	16.5
ALHA77170	12.2	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77171	23.8	H-5 Chondrite	A/B	18.9	17.0
ALHA77173	25.8	H-5 Chondrite	B	19.1	17.0
ALHA77174	32.4	H-5 Chondrite	A	18.3	16.0
ALHA77175	23.3	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77176	54.4	L-3 Chondrite	B	0.3-34	1-37
ALHA77178	5.7	L-3 Chondrite	B/C	1-36	2-40
ALHA77181	33.0	H-5 Chondrite	B	20.0	17.3



Pebble Classifications (cont.)

Number	Weight (g)	Classification	Degree of weather. fract.	% Fa	% Fs
ALHA77184	127.6	H-5 Chondrite	B	17.8	15.9
ALHA77185	28.0	L-3 Chondrite	A/B	n.d.	n.d.
ALHA77186	122.4	H-5 Chondrite	A/B	18.8	16.0
ALHA77187	52.2	H-5 Chondrite	A/B	18.1	16.3
ALHA77188	109.0	H-5 Chondrite	A/B	18.1	16.1
ALHA77193	6.7	H-5 Chondrite	A	19.0	15.7
ALHA77195	4.7	H-5 Chondrite	A	18.9	16.4
ALHA77197	20.3	L-3 Chondrite	A/B	10-27	4-21
ALHA77198	7.3	L-6 Chondrite	B	24.4	20.6
ALHA77200	0.9	H-6 Chondrite	C	19.7	17.6
ALHA77201	15.0	H-5 Chondrite	A	18.8	15.3
ALHA77202	2.7	H-5 Chondrite	B	18.6	16.6
ALHA77205	3.1	H-5 Chondrite	B	18.8	16.7
ALHA77207	4.9	H-5 Chondrite	A/B	17.8	16.7
ALHA77209	31.8	H-6 Chondrite	B	18.8	16.4
ALHA77211	26.7	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77212	16.8	H-6 Chondrite	A/B	18.9	17.0
ALHA77213	8.4	H-5 Chondrite	A	18.6	16.5
ALHA77218	45.1	L-5 Chondrite	A	23.4	19.1
ALHA77220	69.1	H-5 Chondrite	B	17.7	16.0
ALHA77222	125.4	H-4 Chondrite	A/B	18.0	15.3
ALHA77227	16.0	H-5 Chondrite	A	18.9	16.6
ALHA77228	19.3	H-5 Chondrite	B	18.5	16.3
ALHA77235	4.9	H-5 Chondrite	A/B	18.9	16.7
ALHA77237	4.1	H-5 Chondrite	A	18.5	15.8
ALHA77239	19.0	H-6 Chondrite	B	18.7	15.9
ALHA77240	25.1	H-5 Chondrite	A	18.8	16.0
ALHA77241	144.1	L-3 Chondrite	C	n.d.	n.d.
ALHA77242	56.5	H-5 Chondrite	B	18.8	16.2
ALHA77244	39.5	L-3 Chondrite	B/C	n.d.	n.d.
ALHA77245	33.4	H-5 Chondrite	A/B	19.2	17.2
ALHA77246	41.6	H-6 Chondrite	B	19.2	16.5
ALHA77247	44.2	H-5 Chondrite	A/B	18.8	16.4
ALHA77248	96.1	H-6 Chondrite	B/C	18.7	16.7
ALHA77251	68.8	L-6 Chondrite	B	25.0	21.3
ALHA77253	23.6	H-5 Chondrite	A/B	19.2	16.9
ALHA77265	18.3	H-5 Chondrite	B	17.6	15.9
ALHA77266	108.4	H-5 Chondrite	B	19.6	17.7
ALHA77267	103.5	L-5 Chondrite	A	24.7	20.9
ALHA77275	24.9	H-5 Chondrite	A	18.3	15.6
ALHA77279	174.5	H-5 Chondrite	A	18.8	17.1
ALHA77291	5.8	H-5 Chondrite	A	18.9	15.9
ALHA77293	109.7	L-6 Chondrite	B	24.7	20.9
ALHA77295	141.3	EH-4 Chondrite	B	0.8	1.7
ALHA77301	55.0	L-6 Chondrite	A	24.9	20.9
ALHA77303	78.6	L-3 Chondrite	B/C	n.d.	n.d.
ALHA78004	35.9	H-5 Chondrite		19.2	
ALHA78015	34.9	LL(?L)-3 Chondrite		8-35	
ALHA78027	29.2	H-5 Chondrite		19.3	
ALHA78047	130.3	H-5 Chondrite	B	18.8	
ALHA78052	97.3	H-5 Chondrite	C	17.9	

Pebble Classifications (cont.)

Number	Weight (g)	Classification	Degree of weather. fract.		% Fa	% Fs
ALHA78081	17.8	H-5 Chondrite			19.1	
ALHA78086	9.0	H-6 Chondrite			19.0	
ALHA78088	5.2	H-5 Chondrite			18.8	
ALHA78090	7.5	H-5 Chondrite			18.7	
ALHA78092	16.3	H-5 Chondrite			19.0	
ALHA78094	4.0	H-5 Chondrite			19.1	
ALHA78096	7.5	H-5 Chondrite			18.9	
ALHA78098	2.1	H-5 Chondrite			18.9	
ALHA78116	127.8	H-5 Chondrite	B	B	18.7	
ALHA78121	30.4	H-5 Chondrite			19.2	
ALHA78125	18.7	L-6 Chondrite	B	B	25.0	
ALHA78135	130.8	H-6 Chondrite	B	B	19.0	
ALHA78139	17.0	H-5 Chondrite			19.3	
ALHA78142	31.5	L-5 Chondrite			24.2	
ALHA78147	30.6	H-5,6 Chondrite			19.4	
ALHA78160	16.0	H-5 Chondrite			19.3	

\* 1977 pebbles were classified by S. Mckinnley et al.

# 1978 pebbles were classified by S.J.B. Reed and S.O. Agrell.

Sample No.: ALHA81029  
Field No.: 1563  
Weight (gms): 153.0  
Meteorite Type: L6 Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

This specimen consists of two pieces which fit together. One surface has shiny black fusion crust while the others are weathered to an iridescent red brown. The interior is weathered.

Dimensions: 9.5 x 5 x 2.5 cm

Petrographic Description: Brian Mason

Chondrules are sparse and poorly defined, tending to merge with the granular groundmass, which consists largely of olivine and pyroxene, with minor amounts of maskelynite, nickel-iron, and troilite. The meteorite is extensively weathered, the section being uniformly stained with brown limonite. Microprobe analyses gave the following compositions: olivine,  $Fa_{25}$ ; orthopyroxene,  $Fs_{21}$ ; the maskelynite has CaO (2.1%) appropriate to oligoclase composition, but  $Na_2O$  is low and variable (3.2-4.1%). The meteorite is classified as an L6 chondrite.

The section of ALHA81028 is similar in all respects; it has a veinlet up to 0.2 mm of fine-grained material which appears to consist largely of majorite and ringwoodite. ALHA81027 is similar, and these three meteorites are possibly paired.

Sample Nos: ALHA81041, 81044, 81045, Location: Allan Hills  
81046, 81047, 81048, 81049,  
81050, 81051, 81052  
Field Nos.: 1146, 1125, 1141, 1100, 1121,  
1648, 1147, 1143, 1106  
Combined Weight: 1600.9  
Meteorite Type: H4 Chondrite

Physical Description: Roberta Score

These ten samples represent 31 specimens which may be paired. Small bits of fusion crust are present on a couple of the stones. Most are extensive weathered inside and out.

Petrographic Description: Brian Mason

Chondrules are abundant, and are set in a granular groundmass of olivine and pyroxene, with minor amounts of nickel-iron and troilite. Some of the pyroxene is polysynthetically twinned clinobronzite. Brown limonitic staining pervades the section. Microprobe analyses gave the following compositions: olivine,  $Fa_{18}$ ; pyroxene somewhat variable,  $Fs_{15-23}$ , mean  $Fs_{18}$ . The meteorite is classified as an H4 chondrite.

The sections of ALHA81043, 81044, 81045, 81046, 81047, 81048, 81049, 81050, 81051, and 81052 are very similar to that of ALHA81041, which suggests that some or all of these meteorites may be paired.

Sample No.: ALHA81064  
Field No.: 1135, 1139  
Weight (gms): 191.0  
Meteorite Type: H5 Chondrite

Location: Allan Hills

Physical Description: Roberta Score

ALHA81064 consists of two pieces that fit together perfectly. Patches of black fusion crust are present on the exterior, with the rest of the stone being a uniform reddish-brown color. The interior is extensively weathered.

Dimensions: 7.5 x 4 x 2 cm

Petrographic Description: Brian Mason

Chondrules are fairly abundant, but their margins are sometimes diffuse and tend to merge with the granular groundmass, which consists largely of olivine and pyroxene, with minor amounts of nickel-iron and troilite. Weathering is extensive, with limonitic staining throughout the section and some small areas of brown limonite. Microprobe analyses gave the following compositions: olivine, Fa<sub>18</sub>; pyroxene, Fs<sub>15</sub>. The meteorite is classified as an H5 chondrite.

Sample No.: ALHA81094  
Field No.: 1108  
Weight (gms): 152.0  
Meteorite Type: H6 Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

Shiny black to brown fusion crust covers this specimen. Several large fractures penetrate the interior. The interior is dark red brown with no features distinguishable.

Dimensions: 5 x 5 x 3 cm

Petrographic Description: Brian Mason

Chondrules are present, but are extensively integrated with the granular groundmass, which consists largely of olivine and pyroxene, with minor amounts of nickel-iron, troilite, and plagioclase. Weathering is extensive, with limonitic staining and small areas of limonite throughout the section. Microprobe analyses gave the following compositions: olivine, Fa<sub>10</sub>; orthopyroxene, Fs<sub>16</sub>; plagioclase, An<sub>12</sub>. The meteorite is an H6 chondrite.

Sample No.: ALHA81098  
Field No.: 1311  
Weight (gms): 70.9  
Meteorite Type: Mesosiderite

Location: Allan Hills

Physical Description: Carol Schwarz

The two pieces making up this specimen are fractured and reddish brown with remnant fusion crust. Several brownish mineral grains are present on the surface of the larger piece. The interior is dark red-brown.

Dimensions: 4 x 4 x 1.5 cm; 4 x 3.5 x 1 cm

Petrographic Description: Brian Mason

The section consists largely of orthopyroxene, as angular clasts up to 2.5 mm across, in a matrix of comminuted material; the matrix also contains a little plagioclase. About 20% of nickel-iron is present but is extensively weathered to brown limonite. Chromite is a common accessory, in grains up to 1.5 mm across, and a little troilite is present. Microprobe analyses give orthopyroxene composition  $Fs_{28}$ ; with mean weight per  $CaO$  1.1,  $MnO$  0.8,  $Al_2O_3$  0.6,  $TiO_2$  0.3; plagioclase composition is  $An_{87}$ . The meteorite is a mesosiderite, very similar to ALHA81059, with which it may be paired.

Sample No.: ALHA81099  
Field No.: 1284  
Weight (gms): 151.6  
Meteorite Type: L6 Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

This angular piece is covered with black fusion crust. Oxidation halos and white deposit are present. The interior is light gray with some darker inclusions. A few oxidation halos occur.

Dimensions: 7 x 3 x 3 cm

Petrographic Description: Brian Mason

Chondrules are sparse and poorly defined, tending to merge with the granular groundmass, which consists largely of olivine and pyroxene, with minor amounts of plagioclase, nickel-iron, and troilite. Remnants of fusion crust, up to 0.6 mm thick, rim part of the section. Weathering is minor, being limited to brown limonitic staining around metal grains. Microprobe analyses gave the following compositions: olivine,  $Fa_{25}$ ; orthopyroxene,  $Fs_{21}$ ; plagioclase,  $An_{10}$ . The meteorite is an L6 chondrite.

Sample No.: ALHA81100  
Field No.: 1484  
Weight (gms): 154.6  
Meteorite Type: H5 Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

This specimen has black fusion crust on all but two sides. It is polygonally fractured and somewhat weathered. The other surfaces are dark reddish brown but show distinct chondrules and gray clasts. The interior is gray with oxidation haloes and a 1-2 mm weathering rind.

Dimensions: 5 x 4.8 x 4.8 cm

Petrographic Description: Brian Mason

Chondrules are fairly abundant but their margins are diffuse, tending to merge with the granular groundmass, which consists largely of olivine and pyroxene with minor amounts of nickel-iron and troilite. Weathering is moderate, being limited to brown limonitic staining around metal grains. Microprobe analyses gave the following compositions: olivine, Fa<sub>19</sub>; orthopyroxene, Fs<sub>17</sub>. The meteorite is classified as an H5 chondrite.

Sample No.: ALHA81101  
Field No.: 1634  
Weight (gms): 119.2  
Meteorite Type: Ureilite

Location: Allan Hills

Physical Description: Carol Schwarz

Fusion crust occurs on two sides of this specimen. The other sides have a rough surface, dark brown in color with gray inclusions. The interior is medium gray and not extensively weathered. It appears to be fractured or shocked, having a blocky texture.

Dimensions: 7.2 x 4.5 x 3 cm

Petrographic Description: Brian Mason

The section shows an aggregate of subhedral to anhedral crystals of olivine, 1-3 mm across; they are rimmed with dark carbonaceous material. Pyroxene, if present, is in small amount. Accessory nickel-iron is present, as minute grains along grain boundaries and fractures; it is partly altered to brown limonite. Under crossed polars the olivine crystals are seen as a mosaic of tiny grains averaging 0.05 mm across, evidently a shock effect. Microprobe analyses show olivine of variable composition, Fa<sub>10-22</sub>, mean Fa<sub>19</sub>. The meteorite is a ureilite; it differs from previously described ureilite from the Allan Hills in the mosaic texture of the olivine.

Sample No.: AIHA81103  
Field No.: 1426  
Weight (gms): 136.1  
Meteorite Type: H6 Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

The fusion crust on this stone is fractured and blistery in some areas. The other surfaces are brown and somewhat vuggy. The interior is reddish brown with one small area of grayish matrix remaining.

Dimensions: 6 x 5 x 3 cm

Petrographic Description: Brian Mason

Chondrules are sparse and poorly defined, their margins merging with the groundmass, which consists largely of granular olivine and pyroxene, with minor amounts of nickel-iron, troilite, and plagioclase. Weathering is extensive, with veinlets and small areas of brown limonite throughout. Microprobe analyses gave the following compositions: olivine, Fa<sub>19</sub>; orthopyroxene, Fs<sub>17</sub>; plagioclase, An<sub>12</sub>. The meteorite is an H6 chondrite; it is very similar to AIHA81112, and is possibly paired with that specimen.

Sample No.: AIHA81104  
Field No.: 1114  
Weight (gms): 183.8  
Meteorite Type: H4 Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

Thin patchy fusion crust occurs on several sides of this reddish brown fragment. It is extremely fractured. The interior is totally weathered.

Dimensions: 9 x 4.5 x 3.5 cm

Petrographic Description: Brian Mason

Chondrules are numerous and well developed, but some are deformed or fragmented. They are set in a granular groundmass consisting largely of olivine and pyroxene, with minor amounts of nickel-iron and troilite. Much of the pyroxene is polysynthetically twinned clinobronzite. Weathering is indicated by brown limonitic staining throughout the section. Microprobe analyses gave the following compositions: olivine, Fa<sub>19</sub>; pyroxene, Fs<sub>17</sub>. The meteorite is classified as an H4 chondrite.

Sample No.: ALHA81107  
Field No.: 1438  
Weight (gms): 139.6  
Meteorite Type: L6 Chondrite

Location: Allan Hills

Physical Description: Roberta Score

No fusion crust remains on this typical equilibrated L-type chondrite. It is a rounded specimen with a light to medium gray interior. A discontinuous weathering rind of up to 0.5 cm is present.

Dimensions: 6 x 4.5 x 3 cm

Petrographic Description: Brian Mason

Chondrules are few and poorly defined, their margins merging with the granular groundmass, which consists largely of olivine and pyroxene, with minor amounts of plagioclase, nickel-iron, and troilite. Weathering is minor, being limited to brown limonitic staining around metal grains. Microprobe analyses gave the following results: olivine,  $Fa_{24}$ ; orthopyroxene,  $Fs_{24}$ ; plagioclase,  $An_{11}$ ; one grain of diopside,  $Wo_{46}En_{47}Fs_7$ , was identified. The meteorite is an L6 chondrite.

Sample No.: ALHA81112  
Field No.: 1550  
Weight (gms): 150.3  
Meteorite Type: H6 Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

Dull black fusion crust covers most of this sample. The other surfaces are dark brown with several light inclusions visible. The interior exposed in chipping is a red brown color.

Dimensions: 5 x 5 x 3.5 cm

Petrographic Description: Brian Mason

The section shows a granular aggregate of olivine and pyroxene, with minor amounts of nickel-iron, troilite, and plagioclase, with a few poorly defined chondrules. Weathering is extensive, with veins and small areas of brown limonite throughout. Remnants of fusion crust, up to 0.5 mm thick, rim the section. Microprobe analyses gave the following results: olivine,  $Fa_{19}$ ; orthopyroxene,  $Fs_{17}$ ; plagioclase,  $An_{12}$ . The meteorite is an H6 chondrite.



Sample No.: ALHA81113  
Field No.: 1646  
Weight (gms): 111.1  
Meteorite Type: H5 Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

This angular specimen is iridescent red-brown and extremely fractured. The interior is weathered except for a small area of yellowish matrix.

Dimensions: 7 x 3.5 x 3.5 cm

Petrographic Description: Brian Mason

Chondrules are moderately abundant, but some are poorly defined, tending to merge with the granular groundmass, which consists largely of olivine and pyroxene, with minor amounts of nickel-iron and troilite. Weathering is extensive, with veins and small areas of brown limonite throughout the section. Microprobe analyses gave the following results: olivine, Fa<sub>18</sub>; orthopyroxene, Fs<sub>16</sub>. The meteorite is classified as an H5 chondrite.

Sample No.: ALHA81115  
Field No.: 1219  
Weight (gms): 154.9  
Meteorite Type: H5 Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

One mm thick patchy fusion crust is scattered on this smooth rounded specimen. The sample is red brown and extensively weathered.

Dimensions: 5.5 x 4.5 x 4 cm

Petrographic Description: Brian Mason

Chondrules are fairly abundant, but some are poorly defined and tend to merge with the granular groundmass, which consists largely of olivine and pyroxene, with minor amounts of nickel-iron and troilite. The section is pervaded with veinlets of brown limonite. Microprobe analyses gave the following results: olivine, Fa<sub>19</sub>; orthopyroxene, Fs<sub>17</sub>; some fine-grained plagioclase, An<sub>13</sub>, was identified. The meteorite is classified as an H5 chondrite.

Sample No.: AIHA81119  
Field No.: 1283  
Weight (gms): 107.4  
Meteorite Type: L4 Chondrite

Location: Allan Hills

Physical Description: Roberta Score

AIHA81119 is not a complete specimen. One side of this meteorite is rounded and has thin black fusion crust while the opposite side is flat, greenish in color and clast-rich. Several troilite grains are present on the surface. The interior matrix is medium-gray with scattered areas of heavy oxidation.

Dimensions: 6.5 x 4.5 x 2 cm

Petrographic Description: Brian Mason

Chondrules are abundant and varied in texture, and are set in a fine-grained granular groundmass consisting largely of olivine and pyroxene. Some of the pyroxene is polysynthetically twinned clinobronzite. Minor subequal amounts of nickel-iron and troilite are present, in grains up to 0.5 mm across. Minor weathering is indicated by brown limonitic staining around metal grains. Microprobe analyses gave the following results: olivine,  $Fa_{24}$ ; pyroxene,  $Fs_{21}$ . The meteorite is classified as an L4 chondrite.

Sample No.: AIHA82100  
Field No.: 2999  
Weight (gms): 24.3  
Meteorite Type: C2 Carbonaceous Chondrite

Location: Allan Hills

Physical Description: Carol Schwarz

Patchy fusion crust occurs mainly on the bottom of this carbonaceous chondrite. Small sub-millimeter inclusions are visible on the exterior surfaces of the stone. There are no fractures. The north face has a rough texture from weathering. The interior is also black with a few very small inclusions.

Dimensions: 3.5 x 3.5 x 2.5 cm

Petrographic Description: Brian Mason

The section shows numerous small colorless grains (up to 0.3 mm) and irregular aggregates (up to 0.6 mm), mainly of olivine, and sparse chondrules, in a black matrix, translucent brown in thinned areas. Trace amounts of nickel-iron and troilite are present as widely dispersed minute grains. Microprobe analyses show olivine compositions in the range  $Fa_{1-47}$ , but most grains are low-iron and the mean is  $Fa_5$ ; pyroxene is very rare, two grains of clinoenstatite ( $Fs_{1-2}$ ) being analyzed. The meteorite is a C2 chondrite.

Sample No.: ALHA82101

Field No.: 2908

Location: Allan Hills

Weight (gms): 29.1

Meteorite Type: C30 Carbonaceous Chondrite

Physical Description: Carol Schwarz

The exterior surfaces that are not covered with a shiny, blistery fusion crust are gray-brown in color, contain small inclusions, and are rough on a millimeter scale. The interior is a gray-beige color with a 1 mm discontinuous weathering rind. Some metal is present. The matrix is fine-grained. A few white and darker gray inclusions are present.

Dimensions: 3 x 2.7 x 2.7 cm

Petrographic Description: Brian Mason

The section shows an aggregate of small chondrules (average diameter approx. 0.5 mm), chondrule fragments, and mineral grains set in a translucent yellow-brown isotropic matrix. The chondrules show a wide variety of textures; in barred olivine chondrules the bars are pale brown isotropic glass. Minor amounts of nickel-iron and sulfide are present, as small grains within some chondrules and also concentrated around their margins. Microprobe analyses of olivine show a wide composition range:  $Fa_{1-50}$ , mean  $Fa_{22}$ ; only a few grains of pyroxene were found, with composition range  $Fs_{1-10}$ . The meteorite is classified as a C3 chondrite of the Ornans subtype.

Sample No.: ALHA82102

Field No.: 2995

Location: Allan Hills

Weight (gms): 40 (estimate)

Meteorite Type: Ordinary Chondrite

Physical Description: Roberta Score

Stone was found apparently weathering out of the ice at the Far Western Ice Field. This specimen was collected in situ in a large block of encasing ice. The ice was sent to an ice coring lab in New Hampshire and was determined to be original (not refrozen) ice. The meteorite is now being sent back to Houston for characterization.

Sample No.: EETA82600  
Field No.: 2956  
Weight (gms): 247.1  
Meteorite Type: Howardite

Location: Elephant Moraine

Physical Description: Carol Schwarz

Some black pitted fusion crust occurs on one surface of EETA82600. The other surfaces are smooth and gray with small white and dark gray inclusions. Chipping revealed an interior that is gray with an indistinct whitish weathering rind. The inclusions present are small and not very obvious.

Dimensions: 7 x 5 x 5 cm

Petrographic Description: Brian Mason

The section shows a microbreccia of angular fragments (grains up to 2 mm across) of pyroxene (orthopyroxene and pigeonite) and plagioclase, in a matrix of comminuted pyroxene and plagioclase. Trace amounts of troilite and nickel-iron are present, and rare plagioclase-pigeonite clasts, up to 1.5 mm across. Microprobe analyses show a wide range in pyroxene compositions:  $Wo_{1-24}$ ,  $En_{33-77}$ ,  $Fs_{22-53}$ ; the grains with  $En > 70$  indicate the presence of a diagenetic component. Plagioclase shows a considerable range of compositions,  $An_{7-21}$ . The meteorite is classed as a howardite and is possibly paired with EETA79006.

Sample No.: PCAA82500  
Field No.: 2723  
Weight (gms): 90.9  
Meteorite Type: LL6 Chondrite

Location: Pecora Escarpment

Physical Description: Carol Schwarz

This specimen is very unusual looking. It is extremely fragmented with numerous cavities, some extending through the thickness of the sample. The cavities were filled with ice and snow when the sample was removed from the freezer. Several patches of fusion crust are present. The exterior surfaces are a dark gray color with the fresher areas exhibiting a light gray to yellowish color. Inclusions (chondrules?) have been exposed on the exterior surface. The interior contains much white evaporite deposit along with areas of yellowish weathering residue. A dark gray fine-grained matrix is visible in less weathered areas as are minute metal flecks and a few yellowish dots of oxidation.

Dimensions: 7 x 5 x 2.8 cm

Petrographic Description: Brian Mason

The section shows a single prophyritic olivine chondrule, diameter 3.6 mm, in an aggregate of turbid anhedral olivine grains averaging 0.1 mm. Small amounts of troilite and nickel-iron are present, the nickel-iron being largely weathered to brown limonite. Microprobe analyses gave olivine composition  $Fa_{31}$ ; no pyroxene was found, but occasional grains of plagioclase ranging in composition from  $An_{20}$  to  $An_{40}$  were analyzed. The meteorite is classified as an LL6 chondrite.

Sample No.: PCAA82501

Location: Pecora Escarpment

Field No.: 2725

Weight (gms): 54.4

Meteorite Type: Eucrite (unbrecciated)

Physical Description: Carol Schwarz

This achondrite has areas of shiny fusion crust remaining on all surfaces. Some sides are smooth, while others are rough and contain numerous vugs. Where there is no fusion crust the specimen is coarse grained, white and dark gray in color, with some yellowish oxidation. No individual clasts are visible. There is a very small amount of oxidation present in the interior of this stone.

Dimensions: 4.5 x 3 x 3 cm

Petrographic Description: Brian Mason

The section shows an ophitic intergrowth of plagioclase and pigeonite; the plagioclase laths average about 1 mm long. Trace amounts of troilite and nickel-iron are present, as minute grains; the nickel-iron grains are surrounded by rusty limonitic halos. Microprobe analyses show pyroxene compositions ranging fairly continuously from  $Wo_4En_{39}Fs_{57}$  to  $Wo_{21}En_{38}Fs_{41}$ , the range in En content being quite limited. Plagioclase composition range is  $An_{8-20}$ . The meteorite is a eucrite and is unbrecciated in the thin section.

Sample No.: PCAA82502  
Field No.: 2713, 2770, 2788  
Weight (gms): 890.4  
Meteorite Type: Eucrite (unbrecciated)

Location: Pecora Escarpment

Physical Description: Carol Schwarz

PCAA82502 consists of 3 pieces that have areas of extremely shiny fusion crust. These 3 pieces do not fit together, but it is obvious they are paired. The interiors of the fragments have a light gray matrix with darker gray inclusions up to several mm across. No weathering is evident, except that the exterior surfaces are darker gray than the interior surfaces.

Dimensions: 6 x 4.5 x 2.8 cm; 4.5 x 4.3 x 3 cm; 11 x 8.5 x 8 cm

Petrographic Description: Brian Mason

The section shows a fine-grained ophitic intergrowth of pigeonite and plagioclase (average length of plagioclase laths is about 0.1 mm). Small areas of somewhat coarser material may be partly digested clasts of similar composition. Trace amounts of nickel-iron and troilite are present, as minute grains. Microprobe analyses show pyroxene compositions ranging fairly continuously from  $Wo_{55}En_{34}Fs_{61}$  to  $Wo_{34}En_{30}Fs_{36}$ , the range in En content being quite limited. Plagioclase composition is  $An_{8-23}$ . The meteorite is a eucrite and is unbrecciated in thin section; it is possibly a fine-grained variant of PCAA80501.

Sample No.: TIL82403  
Field No.: 2776  
Weight (gms): 49.8  
Meteorite Type: Eucrite (brecciated)

Location: Thiel Mountains

Physical Description: Carol Schwarz

Shiny black fusion crust covers 70% of this achondrite. The exterior matrix is gray with some white clasts, and a few black and white clasts visible. The top surface contains many vugs as large as 5 mm in diameter. The interior matrix is light gray with small white and darker gray clasts. One large coarse grained black and white clast was exposed when this meteorite was chipped.

Dimensions: 4.7 x 4 x 2 cm

Petrographic Description: Brian Mason

The section shows a microbreccia of angular fragments (grains up to 1.2 mm across) of pyroxene (orthopyroxene and pigeonite) and plagioclase, in a matrix of comminuted pyroxene and plagioclase. Trace amounts of troilite and nickel-iron are present as minute grains. There are numerous clasts, mostly small, but one is 6 mm long; they are ophitic intergrowths of pigeonite and plagioclase, coarse to fine-grained. Microprobe analyses show a moderate range of pyroxene compositions:  $Wo_{3-22}, En_{30-40}, Fs_{43-58}$ . Plagioclase shows a considerable range of composition,  $An_{7-23}$ . The meteorite is a brecciated eucrite.